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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,238	04/01/2000	Srinivas Chaganty	M-8403 US	9955

7590

07/18/2003

Avaya Inc.
Docket Administrator
P.O. Box 629
Holmdel, NJ 07733

EXAMINER

HA, LEYNNA A

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/540,238

Applicant(s)

CHAGANTY ET AL.

Examiner

LEYNNA T. HA

Art Unit

2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-63 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

1. Claims 1-63 have been examined.
2. The Specification and claims 48-62 are objected.
3. Claim 43 is rejected under 35 U.S.C. 112, 1st paragraph.
4. Claims 1-7, 14-19, 23-30, and 37-63 are rejected under 35 U.S.C. 102(e) with the priority date, May 2, 1997, of the Continuation-in-part application.
5. Claims 8-13, 20-22, and 31-36 are rejected under 35 U.S.C. 103(a).
6. Minor Informalities

Specification

7. *The disclosure is objected to because of the following informalities:*

On page 1, Applicant needs to provide the updated status of the co-pending applications Serial No. 08/994,709 that is now a patent (US 6,266,335) and Serial No. 08/992,038 that is now in the state of allowance. Further, Applicant fails to provide the Serial Numbers of the two co-pending applications mentioned on lines 13 and 15.

On page 9 of line 31 and page 14 of line 6, fails to provide the US Patent Application Serial Number.

Appropriate correction is required.

Claim Objections

8. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 48-62 have been renumbered 49-63. The dependency of the renumbered claims needs to be corrected as well.

9. Claims 49 and 62 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The Examiner asserts Applicant appears to attempt to change a term used in independent claims 47 (for claim 49) and 57 (for claim 62):

Claim 49 states "the computers". Claim 49 is improper because this claim is dependent on to another claim where there is no recitation of the "the computers". Claim 62 states, "the IP address". Also, there is no recitation of "the IP address".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 43 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 43 states a "third side" of a firewall. A review of the specification fails to disclose what is the first or the second side of a firewall for the Examiner to hypothesize what the third side of the firewall is. The Examiner ascertains that the first side would be the external side of the firewall and the second side is the internal and protected side of the firewall. In addition, a review of the figures fails to show an example of what the third side of a firewall might be.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. Claims 1-7, 14-19, 23-30, and 37-63 are rejected under 35 U.S.C. 102(e) as being unpatentable over Coile, et al. (US 6,108,300).

As per claims 1 and 16:

The Examiner found the term “flowswitch” somewhat unclear, so a review of the specification leads the Examiner to how the “flowswitch” is defined. On page 10 of the specification, states that the “flowswitch” is a configurable switch circuit and on page 4, states that the switch circuit is used to detect failures. So therefore for purposes of applying art, a “flowswitch” detects failures.

Coile, et al. teaches method for providing a failover for a variety of network devices **300,310** such as firewalls (col.5, lines 7-12) in a network wherein the network includes servers **210,220** and a network flowswitch in the form of a failover cable **230** (col.5, lines 43-44).

Coile fails to point out that the network includes plurality of firewalls. However, Coile did suggest examples of the variety of network devices, which includes firewalls (col.5, lines 7-12). Therefor, it is inherent that plurality of firewalls includes in Coile's invention, so when a failure does occur, there is another firewall to take the place of the unoperational (failed) firewall to continuously protect the network from harmful intruders. Further, there exists a primary server **210**, a backup server **220**, a primary network device **300**, and a secondary network device **310** (col.6, lines 44-45). The failover cable determines the status of the servers (col.5, lines 43-48) and the failures of the network devices (col.6, lines 14-22). The network device periodically exchanges confirmation messages along the failover cable via the network to indicate that the network has not failed or a sends a failure message indicating the network device has failed (col.6, lines 43-67). Once a failure is detected, an active MAC address of a functional backup network device replaces the MAC address of the failed network device (col.6, line 67 thru col.7, line 9). Thus (the Examiner asserts), prevents the packets from being relayed to the failed network device, therefore, the packets are relayed to the functional network device with the active MAC address.

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As per claim 2: See col.5, lines 26-31).

As per claim 3:

Coile discuss each switch is associated with each connection where different network devices is connected at different ports (col.10, lines 32-43). Therefore, it is inherent to relay the packets to the functional firewalls over unshared ports so that packets can be forwarded to the standby device without confusion of which network device location has failed (col.10, lines 26-30).

As per claim 4: See col.6, lines 16-20.

As per claims 5: See col.11, lines 2-8.

As per claim 6:

Coile suggests ARP but fails to describe the functions of an ARP in more detail. The Examiner asserts the use of ARP request is to determine the physical address of a node. The Examiner asserts it is inherent the function of an ARP request of Coile's invention is to find out the new address of the functional firewall (col.12, lines 42-44). Therefore, Coile inherently teaches responding to the ARP requests with an active MAC address of a firewall.

As per claim 7:

Coile teaches the use of the PING test during a 5 seconds interval to determine if the remote device has failed (col.11, lines 10-25). The Examiner asserts that Coile suggests the ICMP. As understood by the Examiner, Ping is to see whether the machine is connected to a destination such as the Internet and ICMP communicates errors and informs machines about an unreachable

destination. Therefore, the ICMP method for determining whether the particular destination is reachable or operational.

As per claim 14: See col.6, lines 14-19.

As per claim 15: See col.13, line 8.

As per claim 16: as rejected on the same basis as claim 1.

As per claim 17: Refer to claim 5.

As per claim 18: as rejected on the same basis as claim 4.

As per claim 19: as rejected on the same basis as claim 15.

As per claim 23:

Coile, et al. teaches method for providing a failover for a variety of network devices **300,310** such as firewalls (col.5, lines 7-12) in a network that is coupled to the backbone of the Internet (col.12, line 65 – col.13, line 4). The network includes servers **210,220** and a switch circuit in the form of a failover cable **230** (col.5, lines 43-44). Coile fails to point out that the network includes plurality of firewalls. However, Coile did suggest examples of the variety of network devices, which includes firewalls (col.5, lines 7-12). Further, it is inherent that plurality of firewalls includes in Coile's invention, so when a failure does occur, there is another firewall to take the place of the unoperational (failed) firewall to continuously protect the network from harmful intruders. Further, there is MAC address for each primary server **210**, a backup server **220**, a primary network device **300**, and a secondary network device **310** (col.6, lines 44-45). The failover cable determines the status of the

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servers (col.5, lines 43-48) and the failures of the network devices (col.6, lines 14-22). The network device periodically exchanges confirmation messages along the failover cable via the network to indicate that the network has not failed or a sends a failure message indicating the network device has failed (col.6, lines 43-67). Once a failure is detected, an active MAC address of a functional backup network device replaces the MAC address of the failed network device (col.6, line 67 thru col.7, line 9). Thus (the Examiner asserts), prevents the packets from being relayed to the failed network device, therefore, the packets are relayed to the functional network device with the active MAC address.

As per claim 24: See col.5, lines 26-31.

As per claim 25: See col.12, lines 10-41.

As per claim 26:

Coile discusses the network device periodically exchanges confirmation messages along the failover cable via the network to indicate that the network has not failed or a sends a failure message indicating the network device has failed (col.6, lines 43-67).

As per claim 27: See col.11, lines 2-8.

As per claim 28: As rejected on the same basis as claim 4.

As per claim 29: See col.11, lines 3-8.

As per claim 30:

Coile discusses that once a failure is detected, an active MAC address of a functional backup network device replaces the MAC address of the failed network device (col.6, line 67 thru col.7, line 9). Thus (the Examiner asserts), prevents the packets from being relayed to the failed network device, therefore, the packets are relayed to the functional network device with the active MAC address.

As per claim 37: as rejected on the same basis as claim 14.

As per claim 38: See col.7, lines 35-52.

As per claim 39: as rejected on the same basis as claim 15.

As per claim 40:

Coile, et al. teaches method for providing a failover for a variety of network devices **300,310** such as firewalls (col.5, lines 7-12) in a network wherein the network includes servers **210,220** and a network flowswitch in the form of a failover cable **230** (col.5, lines 43-44). Coile fails to point out that the network includes plurality of firewalls. However, Coile did suggest examples of the variety of network devices, which includes firewalls (col.5, lines 7-12). The failover cable is plugged on each side of the firewalls (col.7, lines 35-52) and the network device periodically exchanges confirmation messages along the failover cable via the network to indicate that the network has not failed or a sends a failure message indicating the network device has failed (col.6, lines 43-67). Once a failure is detected, an active MAC address of a functional backup network device replaces the MAC address of the failed network device (col.6,

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line 67 thru col.7, line 9). Coile fails to suggest sending a request message to a second side of the firewall. It is inherent if Coile can send a request message through the firewall by having the MAC address, then it is possible to send a request message by using the MAC address to get to the location or to any side of the firewall. See Fig.1

As per claim 41: See col.13, lines 12-21 and FIG.9.

As per claim 42: See col.13, lines 12-21.

As per claim 43: As rejected on the same basis as claim 40.

As per claim 44: See col.6, lines 43-59.

As per claim 45:

Coile teaches the use of NAT where the invention of Coile translates the packet addresses (col.5, lines 60-61).

As per claim 46: See col.10, lines 39-42.

As per claim 47:

Differs from claim 23, wherein the network includes a second switch circuit (col.10, lines 30-34).

As per claim 48: See col.12, lines 25-27.

As per claim 49: See col.5, lines 55-58.

As per claim 50: See col.5, lines 44-45.

As per claim 51:

Coile discloses a flash memory device for storing programs or data (col.13, lines 13-14). It is inherent that a memory can have multiple storage elements to store the different data needs.

As per claim 52: See col.6, lines 43-59.

As per claim 53:

Coile discloses request message by ping and ARP methods, however, Coile fails to particularly suggest ICMP, for ICMP is similar to the ping method but differs that it performs error correction. The Examiner asserts that both methods are used to determine whether a destination can be reached and provides the status of the firewalls.

As per claim 54:

Coile discloses changing address portion of a packet when the backup server is active (col.12, lines 24-32). Otherwise, the Examiner asserts the packet will resume the original address and that it is not necessary to modify the packet if the first firewall is functional.

As per claim 55: See col.12, lines 15-22.

As per claim 56: See col.6, lines 2-3.

As per claim 57:

Coile, et al. teaches method for providing a failover for a variety of network devices **300,310** such as firewalls (col.5, lines 7-12) in a network. Coile fails to point out that the network includes plurality of firewalls. However, Coile did suggest examples of the variety of network devices, which

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includes firewalls (col.5, lines 7-12). The network device periodically exchanges confirmation messages along the failover cable via the network to indicate that the network has not failed or a sends a failure message indicating the network device has failed (col.6, lines 43-67). Once a failure is detected, an active MAC address of a functional backup network device replaces the MAC address of the failed network device (col.6, line 67 thru col.7, line 9). See Fig.1

As per claim 58: See col.7, lines 36-52.

As per claim 59: See FIGURES 8 and 9.

As per claim 60: See FIGURE 4.

As per claim 61:

Coile discloses a method of taking over the active IP address of the formerly active device that was deemed a failure. Therefore it is inherent that Coile does not change the IP address during the transferring of the packets to any of the firewalls. See col.12, lines 29-31.

As per claim 62: As rejected on the same basis as claim 61.

As per claim 63: As rejected on the same basis as claim 15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 8-13, 20-22, and 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coile, et al. and further in view of Belville, et al. (US 5,828,833).

As per claim 8:

Coile teaches a method and apparatus for providing a failover for network devices such as firewalls by sending confirmation messages, ARP request, and ping (ICMP) tests to each of the network devices and if there is no response, then that network device has failed. However, Coile fails to provide a recovery method for the failed firewall.

Belville, et al. teaches the method for proper recovery if there is a failure of the firewall (col.6, lines 54-55). In addition, Belville teaches the DCE firewall application includes a clean-up thread that periodically pings the servers to determine if the servers and firewalls are still present and operable (col.6, lines 36-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention were made to employ the teaching of, Bellville, within the system of Coile, because the recovery method for the failed firewall would regain the operations of a functional firewall to continue to provide secure services of a network (col.4, lines 50-58 and col.5, lines 15-17).

As per claim 9:

As rejected in claim 8, and further includes where Belville discusses the cleanup thread including waiting for a time out period to pass (col.6, lines 56—63). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention were made to employ the teaching of, Bellville, within the system of Coile, because when the time out passes the privileges are allocated so the packet is not transferred to the non-operational firewall.

As per claim 10:

The same rationale applies to claim 9, and further includes the time out period is greater than or equal to a time period needed for the recovered firewall to learn routes to all the known clients. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention were made to employ the teaching of, Bellville, within the system of Coile, because it is more secure by having the advantage to have enough time and not less than the time period to learn the routes to all known clients. Else, there is no point for the recovered firewall to operate as securely as before. See col.5, lines 3-9 and col.12, lines 47-53.

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As per claim 11:

The same rationale applies of claim 8, and further includes where Belville discusses periodically pinging the firewall application to see if it is still operational. The Examiner asserts if the failed firewall receives a ping and responds, then that is an indication the firewall has recovered and is functional once again. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention were made to employ the teaching of, Bellville, within the system of Coile, because it is an indication that the firewall has regained its operational state. See col.6, lines 36-55.

As per claim 12:

As rejected with the same rationale of claim 8. Also, see col.9, lines 3-17.

As per claim 13:

Coile teaches a method and apparatus for providing a failover for network devices such as firewalls by sending confirmation messages, ARP request, and ping (ICMP) tests to each of the network devices and if there is no response, then that network device has failed. However, Coile fails to provide a recovery method for the failed firewall.

Belville, et al. teaches the method for proper recovery if there is a failure of the firewall (col.6, lines 54-55). In addition, Belville teaches the DCE firewall application includes a clean-up thread that periodically pings the servers to determine if the servers and firewalls are still present and operable (col.6, lines 36-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention were made to employ the teaching of, Bellville, within the system of Coile, because the recovery method for the failed firewall would regain the operations of a functional firewall to continue to provide secure services of a network (col.4, lines 50-58 and col.5, lines 15-17). See col.6, lines 36-55.

As per claim 20: as rejected on the same basis as claim 81.

As per claim 21: as rejected on the same basis as claim 11.

As per claim 22: as rejected on the same basis as claim 13.

As per claim 31: as rejected on the same basis as claim 8.

As per claim 32: as rejected on the same basis as claim 9.

As per claim 33: as rejected on the same basis as claim 10.

As per claim 34: as rejected on the same basis as claim 11.

As per claim 35: as rejected on the same basis as claim 13.

As per claim 36: as rejected on the same basis as claim 8.

Minor Informalities

13. Claim 12 is objected to because of the following informalities:

On line 2, there is an extra "a".

Appropriate correction is required.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEYNNA T. HA whose telephone number is (703) 305-3853. The examiner can normally be reached on Monday - Friday (7:00 - 3:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AYAZ SHEIKH can be reached on (703) 305-9648. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5631.

lha
July 14, 2003


AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100